

REMARKS

The present Amendment cancels claims 7 and 8 and adds new claims 9 and 10. Therefore, the present application has pending claims 9 and 10.

Interview Summary

Applicants thank the Examiner for granting the interview conducted on May 15, 2008. In the interview, arguments were presented to overcome the cited references, particularly Tanaka, Doyle, Breed and Lawson. The Examiner indicated that new claims 9 and 10 appeared to more clearly describe features of the invention. However, the Examiner also indicated that further search and consideration would be required to determine whether the claims are allowable over the prior art. In this response, Applicants have reiterated the arguments made during the interview.

35 U.S.C. §112 Rejections

Claims 7 and 8 stands rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. As previously discussed, claims 7 and 8 have been canceled. Therefore, this rejection is rendered moot.

35 U.S.C. §103 Rejections

Claims 7 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Gateway Application for Automotive Network System "BEAN"* to Tanaka et al. ("Tanaka") in view of U.S. Patent No. 5,815,071 to Doyle, and further in view of U.S. Patent No. 6,370,475 to Breed et al. ("Breed"). As previously discussed, claims 7 and 8 have been canceled. Therefore, this rejection is rendered moot.

New claims 9 and 10

Claims 9 and 10 were added to more clearly describe features of the present invention. Specifically, claims 9 and 10 were added to more clearly recite that the present invention is directed to a distributed computer system for an automobile as recited, for example, in independent claims 9 and 10.

The present invention, as recited in claim 9 and as similarly recited in claim 10, provides a distributed computer system for an automobile. The computer system includes a first computer network to which at least one device that periodically sends or receives messages is connected. The computer system also includes a second computer network to which at least one device that sends or receives messages in response to an event or demand is connected. The computer system further includes a gateway connected to the first and second computer networks.

The gateway includes a periodic message receiving means that receives messages which the first computer network sends periodically, and a buffer means that stores the messages received by the periodic message receiving means. The gateway also includes a message value change detecting means that detects a change of the value of the data included in each of the messages stored in the buffer means. Also included in the gateway is an event message sending means that produces a message from the data stored in the buffer means when the message value change detecting means detects the change of the value of the data, and that delivers the produced message to the second computer network.

According to the present invention, the at least one device connected to the first computer network that periodically sends or receives messages is an engine controlling device or an adaptive cruise control (ACC) controlling unit. Also

according to the present invention, the at least one device connected to the second computer network that sends or receives messages in response to the event or demand is a navigation system or an internet terminal. Furthermore, according to the present invention, the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message. The prior art does not teach or suggest all of these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record. Specifically, the features are not taught or suggested by either of Tanaka, Doyle Breed or Lawson, whether taken individually or in combination with each other.

Tanaka teaches applying a gateway application to an automotive network system. However, there is no teaching or suggestion in Tanaka of the distributed computer system for an automobile as recited in claims 9 and 10 of the present invention.

Tanaka discloses where in applying a LAN to automotive electronics systems, an optimal protocol has been adopted for each system, such as a body electronics system, an entertainment system, a service system, and a power train system. As a low cost communication protocol, "BEAN" (Body Electronics Area Network) is adapted to a wider range of functions on a vehicle, and ECU's (engine control unit) numbers are increased. Tanaka rationalizes those network systems with the gateway function on a delegated ECU for each LAN system on a vehicle. This system also realizes the connection to after market products by data exchange through the gateway function, while securing vehicle failsafe.

Features of the present invention, as recited in claim 9, and as similarly recited in claim 10, include a message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means, where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message. Tanaka does not disclose this combination of features.

Therefore, Tanaka fails to teach or suggest “message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means” and “wherein said message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message” as recited in claim 9, and as similarly recited in claim 10.

The above noted deficiencies of Tanaka are not supplied by any of the other references of record, namely Doyle, whether taken individually or in combination with each other. Therefore, combining the teachings of Tanaka and Doyle in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Doyle teaches a method and apparatus for monitoring parameters of vehicle electronic control units. However, there is no teaching or suggestion in Doyle of the distributed computer system for an automobile as recited in claims 9 and 10 of the present invention.

Doyle discloses a system for monitoring and the adjustment of control unit parameter settings of vehicle electronic control units. The monitoring system may be

implemented in a vehicle which incorporates one or more electronic control units for regulating one more operational parameters of the vehicle in accordance with corresponding control unit parameter settings. In an exemplary implementation, the vehicle is equipped with a mobile communications terminal (MCT), which receives from a base station a list of operational parameters to be monitored. Each of the electronic control units, as well as a memory unit, is connected to an internal data link of the vehicle. When a parameter value within the memory unit corresponding to a given control unit is changed, a message is provided to the base station specifying the value currently registered by the control unit. The currently registered value is then compared to an expected parameter value, and an error message is generated if disagreement exists there between. The system also allows vehicle control unit parameter settings to be adjusted from a remote location such as a base station. The MCT of each vehicle is disposed to generate message packets containing updated control unit parameter information received from the base station. The message packets are then sent to a selected electronic control unit over the data link, thereby allowing the updated control unit parameter information to be loaded therein.

Features of the present invention, as recited in claim 9, and as similarly recited in claim 10, include a message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means, where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message.

Doyle does not disclose this combination of features, and the Examiner does not rely upon Doyle for teaching this combination of features.

Therefore, Doyle fails to teach or suggest “message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means” and “wherein said message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message” as recited in claim 9, and as similarly recited in claim 10.

The above noted deficiencies of Tanaka in view of Doyle are not supplied by any of the other references of record, namely Breed, whether taken individually or in combination with each other. Therefore, combining the teachings of Tanaka, Doyle and Breed in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Breed teaches an accident avoidance system. However, there is no teaching or suggestion in Breed of the distributed computer system for an automobile as recited in claims 9 and 10 of the present invention.

Breed discloses a system and method for preventing vehicle accidents in which the absolute position of the vehicle is determined, for example, by using a satellite-based positioning system such as GPS, and the location of the vehicle relative to the edges of the roadway is then determined based on the absolute position of the vehicle and stored data relating to edges of roadways on which the vehicle may travel. A system or component within the vehicle is initiated, for example, an alarm or warning system, or the operation of a system or component is affected, for example, an automatic guidance system, if the location of the vehicle

approaches close to an edge of the roadway or intersects with an edge of the roadway.

Features of the present invention, as recited in claim 9, and as similarly recited in claim 10, include a message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means, where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message. Breed does not disclose this combination of features, and the Examiner does not rely upon Breed for teaching this combination of features.

Therefore, Breed fails to teach or suggest "message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means" and "wherein said message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message" as recited in claim 9, and as similarly recited in claim 10.

The above noted deficiencies of Tanaka in view of Doyle, and further in view of Breed, are not supplied by any of the other references of record, namely Lawson, whether taken individually or in combination with each other. Therefore, combining the teachings of Tanaka, Doyle, Breed and Lawson in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Lawson teaches a system and method for global event notification and delivery in a distributed computing environment. However, there is no teaching or

suggestion in Lawson of the distributed computer system for an automobile as recited in claims 9 and 10 of the present invention.

Lawson discloses a system and method for global event notification in a distributed computer environment. The system and method use a local event registry to identify local event consumers that should be notified when an event occurs. The system and method also use a global event registry which identifies other servers which need notification when an event occurs. These other servers will then, in turn, notify their local event consumers of the event. The system and method incorporates multiple levels of filtering to allow event consumers to remove notification of events having little or no interest. The system and method also ensures that duplicate event notifications are not received for the same event.

Features of the present invention, as recited in claim 9, and as similarly recited in claim 10, include a message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means, where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message. Lawson does not disclose this combination of features.

To support the assertion that the prior art teaches a message value change detecting means, the Examiner relies upon Lawson, citing column 5, lines 25-46 and column 15, lines 25-32. Column 5, lines 25-26 of Lawson describes where an identifier is used to distinguish between original events and duplicate events to eliminate the problem of receiving duplicate notifications. As the name implies, the

“duplicate” event is the same as the original event. Therefore, this is quite different from the present invention, where a change in message value is detected.

Column 15, lines 25-32 of Lawson describes a mechanism used to update cached information and bring it up to date with any changes that have been made in the global event registry. Lawson is silent as to how these changes to the global event registry are detected, or what these “changes” are. Therefore, Lawson does not teach or suggest where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message.

To support the assertion that the prior art teaches where the message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message, the Examiner relies upon Lawson, citing column 11, lines 1-8. Column 11, lines 1-8 of Lawson describes where events may be implemented and accessed in a last-in-first-out (LIFO) method of allowing clients to obtain events in reverse order of occurrence. This LIFO method is not the same as detecting a change by comparing the this-time-value and the last-time-value, as in the present invention.

Therefore, Lawson fails to teach or suggest “message value change detecting means that detects a change of the value of the data included in each of the messages stored in said buffer means” and “wherein said message value change detecting means detects a change of the value of the data by checking whether or not the this-time-value of the received message is different from the last-time-value of the received message” as recited in claim 9, and as similarly recited in claim 10.

Each of Tanaka, Doyle, Breed and Lawson suffer from the same deficiencies, relative to the features of the present invention, as recited in the claims. Therefore, combining the teachings of Tanaka, Doyle, Breed and Lawson does not render obvious the features of the present invention as now more clearly recited in the claims. Accordingly, allowance of the claims over Tanaka, Dolye, Breed and Lawson is respectfully requested.

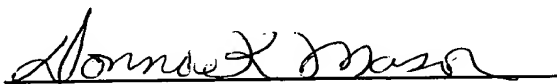
The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the Tanaka, Doyle, Breed and Lawson.

In view of the foregoing amendments and remarks, Applicants submit that claims 9 and 10 are in condition for allowance. Accordingly, early allowance of claims 9 and 10 is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger & Malur, P.C., Deposit Account No. 50-1417 (referencing Attorney Docket No. 503.39781X00).

Respectfully submitted,

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